

```
DDDDDDDDDDDDDD  CCCCCCCCCCCCCC  XXX  XXX
DDDDDDDDDDDDDD  CCCCCCCCCCCCCC  XXX  YXX
DDDDDDDDDDDDDD  CCCCCCCCCCCCCC  XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDD             DDD  CCC           XXX  XXX
DDDDDDDDDDDDDD  CCCCCCCCCCCCCC  XXX  XXX
DDDDDDDDDDDDDD  CCCCCCCCCCCCCC  XXX  XXX
DDDDDDDDDDDDDD  CCCCCCCCCCCCCC  XXX  XXX
```

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MM		DDDDDDDD	LL
MM		DDDDDDDD	LL
MMM	MMM	DD	LL
MMM	MMM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DD	LL
MM	MM	DDDDDDDD	LLLLLLLLLL
MM	MM	DDDDDDDD	LLLLLLLLLL

DCX Private Structure Definitions

Version 'V04-000'

```
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MODIFIED BY:

```
V03-001 DWT0078      David W. Thiel      22-Feb-1983
      Add ANLSL_RATIO_NUM and ANLSL_RATIO_DENOM fields to
      the ANL structure.
```

```
$STRUCT DCXPRV
C      <DCX,255      : End of record character
      EOR,255        : Number of distinct characters
      CHARS,257       : Highest character value
      MAX_CHAR,256    : Maximum analysis tree depth
      ANL_MAXDEP,8    : Maximum analysis segments
      MAX_SEGS,1024
      >
E
```

DCX internal context control block

```
$STRUCT CTX
F      SIZE,L        : Length of context block
F      TYPE,B        : Block type
C      <
      ANLYZ          : Data analysis context
      CMPRS          : Data compression context
      EXPND          : Data expansion context
```



```

F      >
F      .B,3          : Spare
F      VERSION,W     : Version number
C      <
C      VERSION,0     : Current version
F      >
F      .W
F      SANITY,L       : Spare
C      <
C      SANITY,1328643173 : Sanity check word
F      >
F      MAP            : Address of map
L      FIXED_LEN      : Fixed length
F      SPECIFIC,L     : Beginning of type specific area
E

$STRUCT ANL
F      OPTIONS,L      : Options from caller
V      <
      BOUNDED         : Only analyzed data can be compressed
      ONE_PASS        : Only one analysis pass allowed
      EST_BYTES       : Estimated Data Bytes specified
      EST_RECS        : Estimated Data Records specified
F      >
F      D_BYTES,L      : Data Bytes
F      D_RECS,L       : Data Records
F      EST_D_BYTES,L  : Estimated Data Bytes
F      EST_D_RECS,L  : Estimated Data Records
F      DEPTH,B        : Depth of tree
F      .B             : Spare
F      NSEGS,W        : Number of segments allocated
F      QUEUE,Q        : Segment queue header
S      FLINK,,L       : Address of first queue entry
S      BLINK,,L       : Address of last queue entry
F      RATIO_NUM,L    : Numerator of observed to actual data ratio
F      RATIO_DENOM,L  : Denominator of observed to actual data ratio
E      LENGTH        : Data analysis context length

$STRUCT ANLSEG
F      QUEUE,Q        : Queue entry -- list of segments
S      FLINK,,L       : Forward link in list of segments
S      BLINK,,L       : Backward link in list of segments
F      SIZE,L        : Length of segment
F      ID,W          : Segment ID number
F      CHAR,W        : Character preceding this segment
F      ACTIVE,W       : Number of unique characters seen
F      ACTIVE_R,W     : Above, excluding end-of-record char
F      DEPTH,B        : Depth of this segment
F      MIN_CHAR,B     : Smallest character seen
F      MAX_CHAR,B     : Largest character seen
F      ESCAPE,B       : Escape character
F      FLAGS,B        : Segment flags
V      <
      TENT            : Tentative segment
      SOLID           : Solid segment

```

```

REPEAT      : Repeated character case
ESCAPE      : Escape cell valid
BASE        : Base segment
UNBOUNDED   : Unbounded encoding
>
F           : Spare
F           : Maximum code length
F           : Number of sub-segments
F           : Map segment size
F           : Pointer to parent segment
F           : Bits of compressed data
F           : Adjusted bits of compressed data
F           : Total characters counted here
F           : Encoded string
F           : Character frequency array
C           : Length of count array
C           : Next segment pointer array
C           : Length of next segment array
E           : Segment length

$STRUCT CMP
F           : Segment queue header
S           : Forward link in segment queue
S           : Backward link in segment queue
E           : Data compression context length
      QUEUE,Q
      FLINK,,L
      BLINK,,L
      LENGTH

$STRUCT CMPSEG
F           : Queue entry
S           : Forward link in queue
S           : Backward link in queue
F           : Length of segment
F           : Pointer to map segment
F           : Next segment pointers
C           : Length of next segment array
C           : Addresses of encoding strings
C           : Length of encoding strings array
E           : Segment fixed length
      QUEUE,Q
      FLINK,,L
      BLINK,,L
      SIZE,L
      DCXSBM,L
      NEXT,L,256
      NEXT,256
      CODE,L,257
      CODE,257
      LENGTH

$STRUCT EXP
F           : Pointer to array of map segment addresses
L           : Data expansion specific length
E           :
      MAP_SEGS
      LENGTH

```


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